

JS 9/25/21

**INITIAL REVIEW ENGINEERING REPORT** [REDACTED]**P-18-0221**

Focus Ready Draft 07/17/2018

**Engineer:** Austin**PV(kg/yr):** [REDACTED]**Revision Notes/Assessment Overview:****Submitter:** Georgia-Pacific Chemicals LLC**Use:** Binder for manufacturing wood panels. [REDACTED]

[REDACTED] FGEW = [REDACTED].

**Other Uses:** Analog [REDACTED] is an [REDACTED]  
[REDACTED]. Analogs [REDACTED] are [REDACTED].**MSDS:** Y**Label:** N

**Gen Eqpt:** If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. // **Eyes:** Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead. // **Hands:** Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. // **Body/Skin:** Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respirator:** Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

**Health Effects:** Harmful if swallowed. Causes severe skin burns and eye damage. May cause damage to organs through prolonged or repeated exposure. (kidneys)

**TLV/PEL:**

**LVE PPE:**

**CRSS:** 07/02/2018

**Chemical Name:** [REDACTED]

**S-H<sub>2</sub>O:** 1000

**VP:** 0.000001

**MW:** [REDACTED]

**Physical State and Misc CRSS Info:**

**NEAT:** Liquid      **Mfg:** Solution, 60% PMN material in [REDACTED]

**Proc/FormL:** [REDACTED]

**End Use:** Destroyed upon heat curing. A Sustainable Futures Assessment was provided as an attachment to the submission. [REDACTED]

[REDACTED] Submitted data: NAVG MW = [REDACTED] by GPC with [REDACTED] less than 500 and [REDACTED] % less than 1000; liquid; [REDACTED] were provided. The submitted MSDS is for PMN material in formulation. [REDACTED] FGEW = [REDACTED] . . EPI estimated data (input MP = 20 °C) for the structure as drawn [REDACTED] ) with all repeating units equal to one, [REDACTED], MW [REDACTED], SMILES: [REDACTED]  
[REDACTED]: BP = 526 °C; VP = 2.72E-12 torr; WS = 1000 g/L; log P = -1.39. . EPI estimated data (input MP = 20 °C) for the structure as drawn with all repeating units equal to [REDACTED], MW [REDACTED], SMILES: [REDACTED]  
[REDACTED]: BP = 608 °C; VP = 4.69E-015 torr; WS = 1000 g/L; log P = -1.56. . EPI estimated data (input MP = 20 °C) for the structure as drawn blocked at both ends with [REDACTED], [REDACTED]  
[REDACTED], MW [REDACTED], SMILES: [REDACTED]  
[REDACTED] BP = 965 °C; VP = 1.01E-27 torr; WS = 1000 g/L; log P = -1.67.

**Consumer Use:** N

**SAT (concerns):** 07/03/2018

**Related Cases and Misc SAT info:**

**Related Cases:**

**Migration to ground water:** Slow

**PBT Rating:** 1P 3B 2T

**Health:** 2,Dermal; Drinking Water; Inhalation

**Eco:** 1, No releases to water

**Occupational Exposure Rating:** [REDACTED]

**Notes & Key Assumptions:** Occupational exposure and environmental releases were estimated using the 9/30/2013 version of ChemSTEER tool. Input to ChemSTEER tool includes information from: the PMN submission, physical / chemical properties, and relevant past cases. This IRER assesses MFG and USE. SAT concerns are for drinking water, dermal, and inhalation exposures. Migration to groundwater is slow and water releases are not a concern. // The following different-submitter, similar-use past cases were referenced for consistency: [REDACTED]

[REDACTED]. // MFG: This IRER assesses releases from line flush disposal, filter media, and equipment cleaning. It also assesses dermal exposure from loading (consistent with [REDACTED]) and sampling. // USE: This IRER assesses releases from tank truck cleaning and equipment cleaning (consistent with [REDACTED]). It also assesses dermal exposure from unloading (consistent with [REDACTED]).

**Pollution prevention Considerations: P2 Claim:** [REDACTED]

**P2REC: P2 Claim:** [REDACTED]

**Exposure Based Review:** [REDACTED]

- 1) # of workers exposed: [REDACTED] >1000 [REDACTED]
- 2) >100 workers with >10 mg/day inhalation exposure: [REDACTED]
- 3)(a) >100 workers with/1-10 mg/day inh. exp. & >100 days/yr: [REDACTED]
- 3)(b) Routing Dermal Cont: >250 workers & >100 days/yr: [REDACTED]

#### Scenario Details:

**Name:** MFG: Batch

**Number of Sites:** 1

**Locations:**

Capital Resin Corp , Columbus , OH 432072956

**Basis:** The [REDACTED], 60% solution PMN in product, [REDACTED]

**Process Description:** [REDACTED]

#### ENVIRONMENTAL RELEASES ESTIMATE SUMMARY

**Release Notes:** IRER Note: The daily releases listed for any source below may coincide with daily releases from the other sources to the same medium.

**Media:** Landfill

**Descriptor A:** Conservative

**Quantity A:** [REDACTED] kg/site-day over

**Frequency A:** 55day/yr from 1 sites or [REDACTED] kg/yr

**To:** Landfill (per submission)

**From:** Equipment Cleaning Losses of Liquids from Multiple Vessels

**Basis:** EPA/OPPT Multiple Process Vessel Residual Model, CEB standard 2% residual. [REDACTED]

[REDACTED] The submission estimates [REDACTED] kg (LF [REDACTED]) released/batch to landfill. RAD assesses this release using the standard model as conservative over [REDACTED] days.

**Media:** Incineration

**Descriptor A:** Output 2

**Quantity A:** [REDACTED] kg/site-day over

**Frequency A:** 273day/yr from 1 sites or [REDACTED] kg/yr

**To:** Incineration (per submission)

**From:** Filter Media Changeout

**Basis:** User-Defined Loss Rate Model. [REDACTED]

[REDACTED] The submission estimates [REDACTED] kg (LF = [REDACTED]) released per batch to incineration.

**Media:** Incineration

**Descriptor A:** Output 2

**Quantity A:** [REDACTED] kg/site-day over

**Frequency A:** 273day/yr from 1 sites or [REDACTED] kg/yr

**To:** Incineration (per submission)

**From:** Line Flush

**Basis:** User-Defined Loss Rate Model. [REDACTED]

[REDACTED] The submission estimates [REDACTED] kg (LF= [REDACTED]) released from line flush disposal to incineration.

**Release Total:** [REDACTED] kg/yr - all sites

## OCCUPATIONAL EXPOSURES ESTIMATE SUMMARY

**Media:** Dermal

**Exposure To:** Liquid

**Descriptor A:** High End

**Quantity A:** [REDACTED] mg/day over

**Frequency A:** 250 days/yr

**Basis:** Loading Liquid Product into Tank Trucks EPA/OPPT 2-Hand Dermal Contact with Liquids Model. Per November 2016 RAD guidance, default parameters for this model were updated: body weight (BW) was updated from 70 to 80 kg and Averaging Time over a Lifetime (ATc) was updated from 70 to 78 years.

**Number of workers (all sites) with Dermal Exposure:** 5

### INHALATION MONITORING DATA REVIEW

**1)Uncertainty (estimate based on model,regulatory limit, or data not specific to industry.):**  
Yes

**2)(a)Exposure level > 1mg/day?:** No

**2)(b)Hazard Rating for health of 2 or greater?:** Yes

**Inhalation monitoring data desired?:** No

**Media:** Dermal

**Exposure To:** Liquid

**Descriptor A:** High End

**Quantity A:** [REDACTED] mg/day over

**Frequency A:** 250 days/yr

**Basis:** Sampling Liquids EPA/OPPT 1-Hand Dermal Contact with Liquids Model. Per November 2016 RAD guidance, default parameters for this model were updated: body weight (BW) was updated from 70 to 80 kg and Averaging Time over a Lifetime (ATc) was updated from 70 to 78 years.

**Number of workers (all sites) with Dermal Exposure:** 5

### INHALATION MONITORING DATA REVIEW

**1)Uncertainty (estimate based on model,regulatory limit, or data not specific to industry.):**  
Yes

**2)(a)Exposure level > 1mg/day?:** No

**2)(b)Hazard Rating for health of 2 or greater?:** Yes

**Inhalation monitoring data desired?:** No

**Name:** USE: Binder for Wood Panels

**Number of Sites:** 2

**Locations:**

unknown site(s)

**Basis:** The submission estimates 2 sites, up to 350 operating days, and 60% PMN in the raw material. CS calculates [REDACTED] kg PMN/batch.

**Process Description:****ENVIRONMENTAL RELEASES ESTIMATE SUMMARY**

**Release Notes:** IRER Note: The daily releases listed for any source below may coincide with daily releases from the other sources to the same medium.

**Media:** Incineration

**Descriptor A:** High End

**Quantity A:** [REDACTED] kg/site-day over

**Frequency A:** 144day/yr from 2 sites or [REDACTED] kg/yr

**To:** incineration (per submission)

**From:** Cleaning Liquid Residuals from Tank Trucks Used to Transport the Raw Material

**Basis:** EPA/OPPT Bulk Transport Residual Model, CEB standard 0.2% residual. The submission estimates [REDACTED] kg (LF = [REDACTED]) released from tank truck rinsates to incineration. This is consistent with the standard model.

**Media:** Incineration or Landfill

**Descriptor A:** Conservative

**Quantity A:** [REDACTED] kg/site-day over

**Frequency A:** 1day/yr from 2 sites or [REDACTED] kg/yr

**To:** landfill or incineration (per submission)

**From:** Equipment Cleaning Losses of Liquids from a Single, Large Vessel

**Basis:** EPA/OPPT Single Vessel Residual Model, CEB standard 1% residual. The submission states that [REDACTED]

[REDACTED] AD  
assesses this release using the standard model and assumes the equipment is cleaned for maintenance once per year.

**Release Total:** [REDACTED] kg/yr - all sites

**OCCUPATIONAL EXPOSURES ESTIMATE SUMMARY**

**Media:** Dermal

**Exposure To:** Liquid

**Descriptor A:** High End

**Quantity A:** [REDACTED] mg/day over

**Frequency A:** 250 days/yr

**Basis:** Unloading Liquid Raw Material from Tank Trucks EPA/OPPT 2-Hand Dermal Contact with Liquids Model. Per November 2016 RAD guidance, default parameters for this model were updated: body weight (BW) was updated from 70 to 80 kg and Averaging Time over a Lifetime (ATc) was updated from 70 to 78 years.

**Number of workers (all sites) with Dermal Exposure:** 6

#### **INHALATION MONITORING DATA REVIEW**

**1)Uncertainty (estimate based on model,regulatory limit, or data not specific to industry.):**  
Yes

**2)(a)Exposure level > 1mg/day?:** No

**2)(b)Hazard Rating for health of 2 or greater?:** Yes

**Inhalation monitoring data desired?:** No